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Via ECFS
Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Notice of *Ex Parte* communication:
(MB Docket No. 11-154)

Closed Captioning of Internet Protocol-Delivered Video Programming: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010

Dear Ms. Dortch,

I file this letter to the Commission partially in response to the ex parte filing by HDMI Licensing LLC on November 17th and also to provide additional input on the Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010 (CVAA).

I am a consumer with partial hearing loss, an advocate for accessibility for people with disabilities, a social worker and a consultant with expertise in the accessibility needs of people who use captioning and of people with partial hearing loss. I utilize closed captioning extensively with a wide variety of equipment and media, such as DVRs, digital-to-analog converter boxes, set-top boxes and over-the-air television. Born in the United States with pre-lingual hearing loss, I have used closed captioning for decades, beginning with captions decoded by telecaption decoders and continuing with analog televisions that incorporated caption decoding circuitry. I served as the Director of the National Center for Hearing Assistive Technology at Self Help for Hard of Hearing People (now called the Hearing Loss Association of America). Nearly every day, I continue to communicate with other people with hearing loss about accessibility issues, including captioning issues.

I explain so much of my own background because I believe it is important for the Commission to receive the input of a person like myself with extensive personal experience using closed captioning with different kinds of devices and in different kinds of situations. My social work education and background also aids me in my effort to understand and articulate the functional impact of closed captioning and of open captioning on people with various degrees of hearing loss and/or with additional disabilities.

Section 203

The Television Circuitry Decoder Act

I ask the Commission to reference the Congressional mandate expressed within the Television Circuitry Decoder Act of 1990 to provide deaf and hard of hearing people “equal access to the television medium” “to the fullest extent made possible by technology.” This law requires the Commission to “take such action as the Commission determines appropriate to ensure that closed-captioning service continues to be available to consumers.”

Perhaps the FCC has not ever been asked before to uphold the intent of this law with respect to interconnection mechanisms on televisions. I ask now that as the Commission interprets the provisions of the CVAA, it also require all applicable television interconnection mechanisms, including those for set-top boxes, to pass through caption data to the built-in caption decoder circuitry in televisions. The rest of this letter will explain why I believe this is necessary.

It is technologically possible and feasible for all current interconnection mechanisms used to transmit video programming to televisions to pass through (or be revised to pass through) all caption data to the built-in caption decoder circuitry in televisions. The HDMI interface has a channel that is already used to pass through data, such as information related to 3D, and which could be used for the relatively simple task of passing through caption data directly.

Sadly, the fact that the current standard for the HDMI interface does not address the pass through of caption data to televisions has resulted in the denial of closed-captioning service to untold numbers of people with hearing loss throughout the nation:

- Although HD set-top boxes are required to decode caption data, the staff in countless bars, restaurants and other public facilities have tried but failed to activate captions from many of these boxes on an as-needed basis. I have seen staff in multiple places, like a bar in Annapolis, MD, a Just Tires service center in Gaithersburg, and a bar in San Francisco Airport, try in vain to turn on captions, exploring the menu of remote controls for both the television and the set-top box to no avail.¹
- In some facilities, such as a busy LabCorps facility in Rockville, MD, the set-top box was locked up or otherwise inaccessible, and staff refused to try to provide access to the captions.
- Many consumers with hearing loss are not provided the information they need to learn how to turn on captions from their set top boxes. In many cases, they have not been provided manuals explaining how to turn on captions from their set-top box. (In my own mother’s case in Hayden, Idaho, the Time Warner cable installer told her that he had no manual to give her even though she had specifically asked for one upon my suggestion.

¹ Surprisingly, many HD cable set-top boxes currently in use seem designed to **discourage** user activation of captions. For at least some Comcast and Time Warner set top boxes, the menu for the captions cannot be activated unless the set-top box is paradoxically turned **off** and another button is pushed on within a few seconds. For these boxes, there is no quick way to turn captions on or off.

Because the captioning had not been set properly by the installer, for a very long time, she received extremely small captions for her HD cable programming and had to sit unnecessarily close to her large television.)

- People with both hearing loss and vision impairment very much need to be able to control the display of captions through equipment that they themselves have determined address their needs. It would be infeasible and probably impossible for set-top boxes to decode captions in a way that can adequately address the needs of all people with both sensory disabilities.
 - Blind people who are functionally deaf need to be able to pass caption data through to their refreshable braille display, while those who are hard of hearing will need to pass the caption data through a text-to-speech synthesizer.
 - People with very severe vision impairment need to be able to pass the caption data through to a separate display device that can provide high-contrast or extra large letters.
 - Many set-top boxes provide poorly designed captions that are not large or legible enough for people with poor vision to read quickly and easily, whereas televisions can be found that provide better options for displaying captions, such as more legible caption fonts, truly large captions, thick enough fonts, and higher-contrast colors.
 - People with different forms of visual impairment, including sensitivity to different kinds of visual phenomenon, may also require the flexibility of being able to finetune the resolution of the video through HDMI while obtaining captions. (Captions decoded directly by televisions will usually be formatted and displayed better by the television than by the source device, which is “unaware” of the capabilities or settings of the television. This can be critically important to people with dual sensory impairment.)
 - The failure of HDMI to pass through caption data has consequently deprived many people with hearing loss and vision impairment the ability to access captioned video programming displayed at the most suitable resolution for them.

In all these situations above, if the HDMI interface had passed through all caption data to the television, there would have been much better access provided for deaf and hard of hearing people to the television medium. Furthermore, the inability to turn on (legible) captions from the television easily can and will result in hundreds of thousands of people having no captions to understand emergency news, which will be life-threatening. The failure to pass through caption data can and will endanger lives before, during, and after disasters such as tornadoes, hurricanes, floods and wildfires.

The difficulty turning on captions in public facilities is likely to get even worse as more and more places of public accommodation use digital televisions with HDMI cables----until the FCC finally requires that all interconnection mechanisms on televisions pass through caption data and the required changes are implemented.

Definition of Closed Captioning

As technology and conditions change, a need can arise to clarify the meaning of a technological term. I believe the meaning of “closed captioning” needs to be defined more clearly, keeping in mind the functional differences between “closed captioning” and “open captioning.” This term is not currently defined within the CVAA, which means that the FCC itself will need to determine its current meaning.

If we think about “closed captioning” versus “open captioning,” the intent behind providing closed captioning rather than open captioning was to provide the deaf or hard of hearing viewer access to captions as needed. Congress did not mandate open captions for television programming because there are many circumstances in which viewers want to be able to turn the captions off, such as when the captions cover up other information we need to see or when there is no deaf or hard of hearing person in the viewing audience.

Opened captions are not closed captions. The HDMI interface passes through captions that are already opened by set-top boxes, just as other compatible video cables would also pass through the images of the captions that were inserted into the video signal. (The HDMI interface does nothing to decode caption data itself, let alone passing it through.) If the viewer is not provided the wherewithal to control the set top box, the viewer cannot turn the display of visible captions off; functionally, the captions are “opened captions,” not “closed captions.” Similarly, if captions are decoded by a DVR and then recorded, those captions are opened captions, not closed captions, and the captions permanently cover up part of the video. Functionally, if the user has no control over the appearance over the visibility of the captions, the experience is exactly like seeing captions opened at any earlier point.

Effective and equivalent access to closed captioned video programming using the television and its remote control. The Television Decoder Circuitry Act resulted in millions of people throughout the nation learning that televisions could be used to “turn on the captions” for all video programming. Once analog televisions with built-in closed caption decoding were set to display captions, the televisions effortlessly decoded closed captions from captioned media from all devices on all interconnection mechanisms without any extra effort needed from the deaf or hard of hearing person. However, if, as with the HDMI interface, there is no caption data transmitted to the television, the deaf or hard of hearing user (or a caretaker or significant other) is tasked with the often arduous demand of learning how to turn the captions on from the source device (if it decodes closed captions at all). For many people, this demand can be insurmountable; they have tremendous difficulty learning how to operate machinery for a variety of reasons, and also may have never been provided a manual. Failing to pass through caption data made deaf and hard of hearing people more vulnerable and more dependent on other entities to address their needs, and sadly, many of those entities did not rise to the occasion well.

Subjecting deaf and hard of hearing people, many of whom are elderly, to an often complex, inordinately difficult process for setting up captions from a variety of external devices (such as set-top boxes, DVRs, DVD recorders, etc.) imposes a burden on them that is time-consuming, stressful, and burdensome, and which again, does not provide the same ease of access to the television medium that other people enjoy. The televisions selected and purchased to address their individual needs should have been enabled to display the captions most suitable for their needs. The set-top box they had no part in evaluating and choosing often provide poorly

designed captions too small, too thin, too poorly illuminated, or too poorly spaced to be read comfortably.

Because Congress directed the FCC to provide equal access to the television medium for deaf and hard of hearing people (through the use of closed captioning) “to the fullest extent provided by technology,” the Commission can and should require that access to closed captioning services be made available through the television itself whenever possible, that all interconnection mechanisms for video sources devices, televisions, and set-top boxes, should pass through all available caption data, and that “closed captioning” means caption data that can be decoded by the last available caption decoder circuitry through the actions of the end user or operator.

Bearing this in mind, please review the following language from the CVAA:

Section 203:

(b) Other Devices- Section 303 of the Communications Act of 1934 (47 U.S.C. 303) is further amended by adding at the end the following new subsection:

(z) Require that--

<snip>

(2) “interconnection mechanisms and standards for digital video source devices are available to carry from the source device to the consumer equipment the information necessary to permit or render the display of closed captions and to make encoded video description and emergency information audible.”

The HDMI interface does not provide to the consumer equipment (the television) the information necessary to permit or render the display of closed captions as defined above. The only way the HDMI interface can do that is to pass through closed caption data, which it does not currently do. While the HDMI interface is certainly passing through the video signal from set top boxes (which incorporates the images of any opened captions), it is not actually passing through the information to permit or render the display of *closed* captions.

In the Television Circuitry Decoder Act, the Congressional mandate for the FCC to ensure “equal access to the television medium” “to the fullest extent made possible by technology” is critically important to keep in mind. The pass through of closed caption data through **all** interconnection mechanisms is necessary to provide equal access to all current and future methods of receiving television programming. Sadly, not acting to require **all** interconnection mechanisms to pass through caption data, such as the HDMI interface, resulted in deaf and hard of hearing people across the nation experiencing much worsened access to the television medium due to not being to decode caption data from millions of HDMI-equipped devices, such as DVRs, storage devices and even set-top boxes. Deaf and hard of hearing people found themselves unexpectedly, inexplicably, and undeservingly deprived of access to the full benefits of HDMI, including the ability to view the captions from captioned DVDs and Blu-Ray discs

with HD video. Though it will take considerable time for the HDMI standard to be revised and implemented in new devices, it is still imperative for this to be done to rectify the lack of equal access to the television medium.

(Furthermore, despite the position of HDMI Licensing LLC that source devices should decode captions, and despite knowing that HDMI interfaces do not pass through caption data and that there is therefore no HD access provided for captioned DVDs by DVD players, not one of its members nor any other manufacturer using HDMI interfaces voluntarily built in decoding capabilities into DVD players. Despite four major revisions of the HDMI standard, the electronics industry has shown that it will not provide timely, equal access for deaf and hard of hearing people equal access without outside intervention, such as from the FCC.)

Decoding of caption data on video source devices

I have emphasized that all interconnection mechanisms for televisions and video source devices should be required to pass through closed caption data. However, there are many simple display devices that may not or will not contain caption decoding circuitry, such as LCD monitors, video display eyeglasses, projectors, and possibly other video displays not currently available today. To continue providing equal access to the television medium in all possible situations, I ask the FCC to require video source devices to provide the option of decoding caption data whenever possible *in addition* to requiring the pass-through of closed caption data. In the future, video display eyeglasses may become extremely important as a method of displaying a variety of videos. Since caption data is provided in a digital format, it can often easily be decoded by software at little additional expense to the manufacturer.

Section 202

REGULATIONS ON CLOSED CAPTIONING ON VIDEO PROGRAMMING DELIVERED USING INTERNET PROTOCOL

Certain television programmers, such as news broadcasters, may attempt to claim exemption from the requirements of this section due to slicing all their broadcasts into short videos, and never providing a composite, full-length video. The FCC should close this loophole. The intent of Congress was for broadcasters to provide access to all captioned televised programming (not including commercials). If a network or broadcaster provides online access to their televised material only by providing short clips, the network should be required to provide the equivalent of a full broadcast, whether or not the video is continuous or is a series of short clips.

Thank you for your continued service to the nation and for your attention to this matter.

Sincerely,

Dana Mulvany, MSW
Rockville, MD